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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,158	10/24/2003	Shankar Pal	MSFT-2851/306821.01	1679
41505 7590 08/01/2011 WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION) CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891				
EXAMINER				
BETTT, JACOB F				
ART UNIT		PAPER NUMBER		
2169				
NOTIFICATION DATE		DELIVERY MODE		
08/01/2011		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

eoofficemonitor@woodcock.com

# Office Action Summary

**Application No.**

10/693,158

**Applicant(s)**

PAL ET AL.

**Examiner**

Jacob F. Betit

**Art Unit**

2169

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 May 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5-9,11-14,16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-9,11-14,16 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-945)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1/4/2011.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Remarks*

1. In response to communications filed on 20 May 2011, claims 1, 7, and 12 have been amended per the applicant's request. Claims 1-3, 5-9, 11-14, 16, and 17 are presently pending in the application.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-9, 11-14, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng et al. (U.S. patent No. 6,366,934 B1) in view of Milby (U.S. patent No. 7,092,933 B1) and Murthy et al. (U.S. patent application publication No. 2003/0140308 A1).

As to claim 1, Cheng et al. teaches a method for use in a database system in which a user defined type is defined by a class in managed code and comprises a plurality of fields, each field having a respective data type, the method comprising:

defining another class in managed code that represents an XML data type (see column 9, line 60 through column 10, line 21);

defining at least one, but less than all, of the plurality of fields of the user defined type as having the XML data type (see column 10, lines 10-21, user can define additional attributes) and associating said at least one field of the instance of the user defined type with an XML Schema

that defines a content model for the XML data in the field (see column 9, line 57 through column 10, line 7; column 10, lines 31-39; and column 12, line 44 through column 13, line 5, where schema is read on DTD), and defining at least one other of said plurality of fields as having a different data type (see column 10, lines 10-21, varchar);

instantiating the class defining the user defined type to create an object of the user defined type (column 10, line 22 through column 11, line 16) comprising an XML interface object, wherein the object holds XML data in said at least one field and holds data of said different data type in said at least one other field (see column 13, lines 50-55);

persisting the object within a database store (see column 7, line 59 through column 8, line 6); and

writing instantiating the XML interface object in the stream to write both XML data and non-XML data into a stream or file (see column 11, lines 17-50).

Cheng et al. does not distinctly disclose a) at least one user specific non-XML data constructor defined by the user and b) writing non-XML data into a stream.

However, Milby teaches a) see column 10, line 36 through column 11, line 43 and b) see column 14, line 64 through column 15, line 44. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Cheng et al. to include the teachings of Milby because these teachings would allow for the user to create abstract data types that include both XML and non-XML data to populate tables and later have results be returned to the user.

While Cheng et al. teaches storing the XML data in XML character large objects (see abstract, and see column 9, lines 27-44), Cheng et al. does not disclose storing XML data as

binary large objects and therefore does not teach storing content of the at least one of the plurality of fields defined as having the XML data type as a binary SQL type.

However, Murthy et al. teaches using either a CLOB or a BLOB to store XML data and therefore teaches storing content of the at least one of the plurality of fields defined as having the XML data type as a binary SQL type. See paragraph 0117. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Cheng et al. to include the teachings of Murthy et al. because these teachings would allow more than just the characters of the XML file to be saved in the database.

As to claim 2, Cheng et al. teaches wherein the managed code class that represents the XML data type comprises at least one constructor and at least one method that returns an object through which the XML data in said at least one field of the persisted object of the user defined type can be retrieved (see column 10, line 22 through column 11, line 50).

As to claim 3, Cheng et al. teaches further comprising adding a method to the managed code class definition of the user defined type to implement a behavior on said at least one field of the user defined type (see column 15, lines 52-59 and see column 7, line 59 through column 8, line 6).

As to claim 5, Cheng et al. teaches wherein said associating step comprises annotating the managed code class definition of the user defined type with an attribute that identifies the XML

Schema on a server that hosts the database store (see column 12, line 44 through column 13, line 5).

As to claim 6, Cheng et al. teaches further comprising at least one of the steps of:  
querying the object persisted within the database store (see column 20, line 48 through column 22, line 17); and  
modifying the object persisted within the database store (see column 22, lines 40-46).

As to claim 7, Cheng et al. teaches system comprising:  
a runtime that provides managed code execution, the runtime comprising:  
a class in managed code that represents an XML data type (see column 9, line 60 through column 10, line 21); and  
another class in managed code that defines a user defined type, the class definition for the user defined type comprising a plurality of fields, at least one, but less than all, of the plurality of fields being defined as having the XML data type and at least one other of said plurality of fields being defined as having a different data type (see column 10, lines 10-21, user can define additional attributes), wherein said managed code class that defines the user defined type comprising at least one XML data constructor (see column 9, line 57 through column 10, line 7; column 10, lines 31-39; and column 12, line 44 through column 13, line 5, where schema is read on DTD), and an XML interface object, further comprises an association between said at least one field of the instance of the user defined type that contains XML data and an XML Schema that defines a content model for the XML data in the field (see column 10, lines 10-21, varchar);

a database store that instantiates the class defining the user defined type to create an object of the user defined type and that stores the object, whereby said at least one field of the stored object contains XML data and said at least one other field of the object contains data of said different data type (column 10, line 22 through column 11, line 16 and column 13, lines 50-55); and

a communication object that instantiates the XML interface object in the stream to write XML data into a stream or file (see column 11, lines 17-50).

Cheng et al. does not distinctly disclose a) at least one user specific non-XML data constructor defined by the user and b) writing non-XML data into a stream.

However, Milby teaches a) see column 10, line 36 through column 11, line 43 and b) see column 14, line 64 through column 15, line 44. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Cheng et al. to include the teachings of Milby because these teachings would allow for the user to create abstract data types that include both XML and non-XML data to populate tables and later have results be returned to the user.

While Cheng et al. teaches storing the XML data in XML character large objects (see abstract, and see column 9, lines 27-44), Cheng et al. does not disclose that stores content of the at least one of the plurality of fields defined as having the XML data type as a binary SQL type.

However, Murthy et al. teaches using either a CLOB or a BLOB to store XML data and therefore teaches storing content of the at least one of the plurality of fields defined as having the XML data type as a binary SQL type. See paragraph 0117. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have

modified Cheng et al. to include the teachings of Murthy et al. because these teachings would allow more than just the characters of the XML file to be saved in the database.

As to claim 8, please see the citations for claim 2 above.

As to claim 9, please see the citations for claim 3 above.

As to claim 5, please see the citations for claim 11 above.

As to claim 12, Cheng et al. teaches a computer readable storage medium having computer executable instructions stored thereon for execution in a system in which an object that is an instance of a user defined type can be persisted in a database store, said computer executable instructions when executed by a processor in said system implementing a method comprising:

defining a first class in managed code that represents an XML data type (see column 9, line 60 through column 10, line 21);

defining a second class in managed code that defines a user defined type, the second class comprising a plurality of fields, each field having a respective data type, at least one, but less than all, of the fields within the second class being defined as having the XML data type and being associated with an XML Schema that defines a content model for the XML data in the field, and at least one other of said plurality of fields being defined as having a different data type (see column 9, line 57 through column 10, line 7; column 10, lines 31-39; and column 12, line 44 through column 13, line 5, where schema is read on DTD);



instantiating the class defining the user defined type to create an object of the user defined type comprising at least one XML data constructor, and an XML interface object, wherein said at least one field of the object holds XML data and said at least one other field of the object holds data of said different data type (column 10, line 22 through column 11, line 16 and column 13, lines 50-55);

persisting the object within a database store (see column 7, line 59 through column 8, line 6); and

writing instantiating the XML interface object in the stream to write XML data into a stream or file (see column 11, lines 17-50).

Cheng et al. does not distinctly disclose a) at least one user specific non-XML data constructor defined by the user and b) writing non-XML data into a stream.

However, Milby teaches a) see column 10, line 36 through column 11, line 43 and b) see column 14, line 64 through column 15, line 44. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Cheng et al. to include the teachings of Milby because these teachings would allow for the user to create abstract data types that include both XML and non-XML data to populate tables and later have results be returned to the user.

While Cheng et al. teaches storing the XML data in XML character large objects (see abstract, and see column 9, lines 27-44), Cheng et al. does not disclose storing XML data as binary large objects and therefore does not teach storing content of the at least one of the plurality of fields defined as having the XML data type as a binary SQL type.

However, Murthy et al. teaches using either a CLOB or a BLOB to store XML data and therefore teaches storing content of the at least one of the plurality of fields defined as having the XML data type as a binary SQL type. See paragraph 0117. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Cheng et al. to include the teachings of Murthy et al. because these teachings would allow more than just the characters of the XML file to be saved in the database.

As to claim 13, please see the citations for claim 2 above.

As to claim 14, please see the citations for claim 3 above.

As to claim 16, please see the citations for claim 5 above.

As to claim 17, please see the citations for claim 7 above.

#### ***Response to Arguments***

4. Applicant's arguments with respect to claims have been considered but are moot in view of the new grounds of rejection.

#### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob F. Betit whose telephone number is (571)272-4075. The examiner can normally be reached on Monday through Friday 9:30 am to 5:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tony Mahmoudi can be reached on (571) 272-4078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Jacob F Betit/  
Primary Examiner, Art Unit 2169

jfb  
25 Jul 2011